

Application for Generative AI tools in Project Management practices

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Abstract

The integration of Generative Artificial Intelligence (Gen AI) into project management practices represents a transformative shift in how projects are planned, executed, and monitored across various industries. This paper explores the application of Gen AI tools in enhancing project management efficiency, accuracy, and decision-making processes. Leveraging advanced algorithms and vast datasets, Gen AI facilitates the automation of complex tasks, predictive analytics, and real-time insights, significantly reducing human error and improving project outcomes. Key areas of focus include the use of Gen AI in predictive analytics, where AI-driven models analyze historical data to forecast potential risks, optimize resource allocation, and predict project success. Additionally, the role of Natural Language Processing (NLP) in improving communication, automating report generation, and performing sentiment analysis on stakeholder feedback is examined. These capabilities ensure timely, accurate, and actionable information is available to project managers, enabling more informed decision-making. The paper also highlights how Gen AI enhances collaboration within project teams through AI-powered tools that streamline task management, scheduling, and document sharing. By analyzing team members' skills and availability, these tools facilitate the optimal assignment of tasks and ensure efficient project execution, particularly in distributed or remote work environments. Moreover, this study addresses the strategic applications of Gen AI in project management, where AI-driven decision support systems aid in scenario analysis and optimization, helping project managers navigate complex decision-making landscapes. The ethical considerations surrounding the use of Gen AI, such as data privacy, algorithmic bias, and transparency, are also discussed, emphasizing the need for ethical guidelines and robust governance frameworks. This paper argues that the adoption of Gen AI tools in project management is not only enhancing current practices but is also paving the way for a new era of data-driven project management that is more adaptive, responsive, and efficient. The findings presented aim to contribute to the broader discourse on the future of project management in the Asia Pacific region, particularly in the context of educational research, social sciences, and humanities.

Keywords

Generative AI, Project Management, Predictive Analytics, Natural Language Processing (NLP), AI-driven Decision Support